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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,156	09/24/2003	Kazuhiko Kobayashi	243118US2	2800
22850	7590	12/08/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				BRASE, SANDRA L
ART UNIT		PAPER NUMBER		
				2852

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/668,156	Kobayashi et al.
Examiner	Art Unit	
Sandra L. Brase	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on \_\_\_\_.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 1-19 is/are allowed.

6)  Claim(s) \_\_\_\_\_ is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 24 September 2003 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/23/04, 9/3/04; 9/30/04 & 10/13/04

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

**Quayle Action**

***Information Disclosure Statement***

The reference JP 2000-207338 has not been considered since it does not pertain to image formation and is not related to the subject matter of the invention.

1. This application is in condition for allowance except for the following formal matters.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “A” has been used to designate both a straight line group and a time; and reference character “B” has been used to designate both an inclined mark group and a time. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 32, 41r and 41f. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Specification*

4. The disclosure is objected to because of the following informalities.

Appropriate correction is required.

On page 2, lines 15-16, the Japanese Patent Application Laid Open No. 2000-207338" appears to be the wrong number.

*Claim Objections*

5. Claims 1-14 and 18 are objected to because of the following informalities.

Appropriate correction is required.

On line 13 of claim 1, "a first sensor" should be changed to "a sensor".

On line 2 of claim 2, "said sensor is a first sensor, and wherein," should be inserted after "wherein".

On lines 3, 5 and 6 of claim 4, "surface" should be changed to "area".

On line 16 of claim 9, "a first sensor" should be changed to "a sensor".

On line 2 of claim 10, "said sensor is a first sensor, and wherein," should be inserted after "wherein".

On lines 3, 5 and 6 of claim 12, “surface” should be changed to “area”.

***Allowable Subject Matter***

6. Claims 1-19 are allowed.

7. The following is an examiner’s statement of reasons for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

**Claims 1-19**

The primary reasons for allowance are a pattern forming unit that forms a mark pattern including a first mark and a second mark on the transfer belt using toner; a sensor that detects the first mark and the second mark while the transfer mark is moving; an acquiring unit that acquires a current interval between the first mark and the second mark and calculates an interval difference between the current interval and a predetermined reference interval; a speed detector that detects a first moving speed that is a moving speed of the transfer belt during a period of time from formation of the mark pattern to detection of the mark pattern, and a second moving speed that is a moving speed of the transfer belt while transferring the toner image to the recording medium; a calculating unit that calculates a speed difference between the first moving speed and the second moving speed; and a control unit that controls image formation based on

the interval difference and the speed difference. The above limitations are contained in claims 1-19, but is not taught or suggested by the prior art.

***Prior Art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakayasu et al. (US 6,321,060) disclose a detection device that detects positional offsets of detected positions of marks.

Kanaya et al. (US 6,336,024) disclose a device for correction of transfer misregistration.

Shinohara et al. (US 6,381,435) disclose forming and detecting marks in order to perform imaging positioning control.

Nakayasu et al. (US 6,393,244) disclose detecting marks and determining a belt speed based on the detection of the marks.

Dreher et al. (US 6,619,209) disclose a process for determining registration errors and correcting therefore.

Boothe et al. (US 6,661,981) disclose performing precise alignment of color planes with respect to one another for accurate color printing.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is 571-272-2131. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley, can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sandra L. Brase  
Primary Examiner  
Art Unit 2852

December 6, 2004